

***What is Claimed:***

1. An adhesive coated article comprising a substrate with a first and second major surface and a layer of microsphere adhesive on at least a portion of the first major surface of the substrate, wherein the microspheres of the microsphere adhesive are the reaction product of (a) at least one alkyl (meth)acrylate ester wherein the alkyl group contains four to about 14 carbon atoms and (b) at least one nonpolar, ionic, polar comonomer or mixtures of such comonomers.
2. The adhesive coated article according to claim 1 wherein the microsphere adhesive has 90° peel value, as measured on Kromkote® paper in the range of 20 to 250 grams/in.
3. The adhesive coated article according to claim 1 wherein component (b) is a (meth)acrylamide monomer.
4. The adhesive coated article according to claim 1 wherein the microsphere adhesive further includes 1-10% by weight of an aqueous polyacrylamide material.
5. The adhesive coated article according to claim 1 wherein the microsphere adhesive comprises (a) a plurality of polymeric, solid, elastomeric microspheres that are the reaction product of reactants comprising polymerizable starting materials comprising at least one  $C_4-C_{14}$  alkyl (meth)acrylate ester monomers and at least one (meth)acrylamide comonomer with the proviso that the polar comonomer has no dissociable proton having a  $K_a$  of greater than  $10^{-3}$ , (b) a polymeric stabilizer in an amount of about 0.1 to about 3 parts by weight per 100 parts by weight of the microspheres, and (c) a surfactant in an amount of no greater than about 5 parts by weight per 100 parts by weight of the microspheres.

6. The adhesive coated article according to claim 1 wherein the  
microsphere adhesive comprises (a) a plurality of polymeric, solid, elastomeric  
microspheres that are the reaction product of reactants comprising polymerizable  
starting materials comprising at least one C<sub>4</sub>-C<sub>14</sub> alkyl (meth)acrylate ester  
5 monomers and at least one polar comonomer with the proviso that if the polar  
comonomer has a dissociable proton, the polar comonomer has no dissociable  
proton having a K<sub>a</sub> of greater than 10<sup>-3</sup>, (b) a polymeric stabilizer in an amount of  
about 0.1 to about 3 parts by weight per 100 parts by weight of the microspheres,  
and (c) a surfactant in an amount of no greater than about 5 parts by weight per 100  
10 parts by weight of the microspheres.

7. The adhesive coated article according to claim 1 wherein the  
microsphere adhesive comprises (a) a plurality of polymeric, elastomeric  
microspheres wherein the microspheres are the reaction product of polymerizable,  
15 starting materials comprising at least one C<sub>4</sub>-C<sub>14</sub> alkyl (meth)acrylate ester  
monomer and at least one (meth)acrylamide comonomer, (b) an initiator for the  
polymerizable monomer starting materials present in amounts ranging from 0.1 to  
approximately 2 parts by weight per 100 part by weight of the polymerizable  
monomer starting materials, (c) optionally, a polymeric stabilizer in an amount of  
20 between about 0.1 and about 3 parts by weight per 100 parts by weight of the  
microspheres, (d) a surfactant in an amount of no greater than about 5 parts by  
weight per 100 parts by weight of the microspheres, and (e) a chain transfer agent  
in an amount sufficient to produce 30-98% of a solvent-soluble portion in the  
microspheres.

25 8. The adhesive coated article according to claim 7 further comprising  
(f) at least one vinyl-unsaturated additive having both an ionic moiety and a  
hydrophobic moiety and containing at least 5 but not more than 40 carbon atoms in  
an amount of about 0.1 to 3 parts by weight of the microspheres.

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9. The adhesive coated article according to claim 4 wherein the  
microsphere adhesive comprises (a) a plurality of polymeric, elastomeric  
microspheres wherein the microspheres are the reaction product of polymerizable,  
starting materials comprising at least one C<sub>4</sub>-C<sub>14</sub> alkyl (meth)acrylate ester  
5 monomer, (b) an initiator for the polymerizable monomer starting materials present  
in amounts ranging from 0.1 to approximately 2 parts by weight per 100 part by  
weight of the polymerizable monomer starting materials, (c) optionally, a  
polymeric stabilizer in an amount of between about 0.1 and about 3 parts by weight  
per 100 parts by weight of the microspheres, (d) a surfactant in an amount of no  
10 greater than about 5 parts by weight per 100 parts by weight of the microspheres,  
and (e) a chain transfer agent in an amount sufficient to produce 30-98% of a  
solvent-soluble portion in the microspheres.

10. The adhesive coated article according to claim 9 further comprising  
15 (f) at least one vinyl-unsaturated additive having both an ionic moiety and a  
hydrophobic moiety and containing at least 5 but not more than 40 carbon atoms in  
an amount of about 0.1 to 3 parts by weight of the microspheres.

11. The adhesive coated article according to claim 1 wherein the  
20 microsphere adhesive comprises a plurality of hollow, polymeric, acrylate,  
inherently tacky, infusible, solvent-insoluble, solvent dispersible, pressure sensitive  
microspheres comprising (a) at least about 85 parts by weight of at least one alkyl  
acrylate ester or alkyl methacrylate ester, and (b) up to about 15 parts by weight of  
at least one (meth)acrylamide monomer, wherein a majority of the microspheres  
25 contain at least one interior void having a diameter at least about 10% of the  
diameter of the hollow microspheres.

12. The adhesive coated article according to claim 4 wherein the  
microsphere adhesive comprises a plurality of hollow, polymeric, acrylate,  
30 inherently tacky, infusible, solvent-insoluble, solvent dispersible, pressure sensitive

microspheres comprising (a) at least about 85 parts by weight of at least one alkyl acrylate ester or alkyl methacrylate ester, and (b) up to about 15 parts by weight of at least one polar monomer, wherein a majority of the microspheres contain at least one interior void having a diameter at least about 10% of the diameter of the  
5 hollow microspheres.

13. The adhesive coated article according to claim 4 wherein the  
microsphere adhesive comprises composite pressure sensitive adhesive  
microspheres comprising a mixture of two or more water insoluble polymers that  
10 are present wholly within the boundaries of the microspheres, wherein at least one  
water insoluble polymer is a solute polymer and at least one water insoluble  
polymer is a matrix polymer.

14. The adhesive coated article according to claim 1 wherein the  
15 microsphere adhesive comprises composite pressure sensitive adhesive  
microspheres comprising a mixture of two or more water insoluble polymers that  
are present wholly within the boundaries of the microspheres, wherein at least one  
water insoluble polymer is a solute polymer and at least one water insoluble  
polymer is a matrix polymer, and wherein the solute polymer is a homopolymer or  
20 copolymer prepared from (meth)acrylamide monomers.

15. The adhesive coated article according to claim 1 further comprising  
a low adhesion backsize coating on at least a portion of the second major surface,  
such that the low adhesion backsize coating is positioned directly under the  
25 microsphere adhesive layer on the first major surface, such that when at least two  
adhesive coated articles are stacked upon another, the microsphere adhesive layer  
of a first adhesive coated article is contiguously positioned on top of the low  
adhesion backsize coating of a second adhesive coated article.